



Our Water Resources: Groundwater

Tucson Water is in the process of developing a Long Range Water Resource Plan that will help determine where our water will come from in the future, how much it might cost, and what its quality will be.

Tucson has three water sources – groundwater, Colorado River water, and effluent (treated wastewater).

Groundwater

For decades, groundwater was our only water source, coming from wells drilled throughout and around the metropolitan area. Groundwater comes from the aquifer – a porous layer of sand, gravel, silt and clay that exists at various depths beneath the ground. This water has collected there over thousands of years from rain and snowmelt runoff soaking into the ground – a process we call natural recharge. But for decades, we pumped groundwater faster than nature could replace it, causing the water table in some places in central Tucson to drop more than 200 feet.

You can find Tucson Water groundwater wells located all over the metropolitan area. There might be one in your neighborhood, but that may not be where your water comes from. The water from that well may be flowing to a reservoir, where it is stored briefly until needed. Today most of our groundwater is pumped to reservoirs and enters the water distribution system from there. This lets Tucson Water better control water quality and allows us to take advantage of gravity to maintain adequate water pressure in most of our system, although booster stations are needed in some areas of town.

In May 2001 we began using blended water, a mix of recharged Colorado River water and groundwater from the Clearwater Facility in Avra Valley. This has allowed us to stop pumping most of the wells in areas where the water table had dropped significantly and where potential damage to our environment and threat of land subsidence (sinking) are greatest. As a result of shutting down these wells, or putting them on standby status, the water table in some areas beneath the City have begun to rise slightly. More than half of all the water delivered by Tucson Water annually now comes from the Clearwater Facility.



Groundwater Quality

For years we have been fortunate to have high quality groundwater as our primary drinking water source. But as the water table dropped and we had to go deeper underground to get our groundwater, the water quality also declined. The deep groundwater has been there longer and is warmer, so it has a higher level of dissolved minerals. In most cases, these higher minerals levels are harmless, affecting only the taste and aesthetic qualities of the water. However, in the case of some naturally occurring minerals, like arsenic, higher dissolved levels can mean that the water no longer meets drinking water standards. Because we've dramatically reduced our pumping of groundwater in recent years, this issue of degrading quality is, like many of our wells, on standby.

Groundwater Contamination

Contamination of groundwater is a problem throughout the United States and stems from the way people disposed of waste products many years ago. Car batteries, solvents and other chemicals that were put into unlined landfills or, worse, dumped in washes or buried in the desert have contaminated some parts of the water table. Tucson Water tests for these chemicals on a regular basis and when they are found, it can often lead to the closing of the well in question. Tucson Water and the City's Environmental Services Department constantly monitor these sites and are working to protect our groundwater and clean up the worst of these areas of contamination.

For more information about Tucson Water's Long Range Water Resource Planning, call us at 791-2666 or visit our web site at www.cityoftucson.org/water.